

DROSOPHILA CLIPPED *FRT* (cFRT) CHROMOSOME
INSENSITIVE TO *P* TRANSPOSASE, GENERATING
METHOD THEREOF, AND APPLICATION THEREOF

ABSTRACT OF THE DISCLOSURE

A method for generating a *Drosophila* clipped *FRT* (cFRT) chromosome is provided, wherein the chromosome is insensitive to a *P* transposase but remains functional to a yeast site-specific flippase recombinase (FLP). The method includes steps of: (a) exposing a *FRT* chromosome to the *P* transposase for occurring a local and imprecise transposition, wherein the *FRT* chromosome contains a *P[FRT]* insertion with a selection marker gene, (b) screening the *P[FRT]* insertion insensitive to the *P* transposase to obtain screened products, (c) selecting candidate products from the screened products by further examinations, and (d) exposing the candidate products by the *P* transposase and selecting a desired product by the further examinations to obtain the *Drosophila* clipped *FRT* (cFRT) chromosome insensitive to the *P* transposase but remaining functional to the yeast site-specific flippase recombinase. The cFRT^{2L2R} chromosome can be used as the direct target in the direct *P*-transposon-induced mutagenesis.